

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:	Schipper	)	Confirmation No. 4559
		)	
Serial No.:	10/762,095	)	
		)	
Filed:	January 21, 2004	)	
		)	
For:	Apparatus for removing air	)	
	and/or debris from a flow	)	
	of liquid	)	
		)	
Group Art Unit:	1797	)	
		)	
Examiner:	Kurtz, Benjamin	)	
		)	
Attorney Docket No.	TCI-P003	)	

**REPLY BRIEF**

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Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Responsive to the Answer, which was mailed on September 18, 2009, Appellants submit the following Reply Brief under 37 C.F.R. § 41.41. In addition to the comments made in the Appeal Brief, the Applicant request consideration of the following comments.

**FAILURE TO INTRODUCE EVIDENCE**

The Answer fails to introduce any evidence indicating the level of ordinary skill in the art used as the basis of the rejections; and evidence necessary to evaluate the Graham factors that are required to support an obviousness rejection under 35 U.S.C. 103(a) in each and every case. As such, the rejections based on obviousness cannot be affirmed because no evidence has been introduced to support them.

## **OBJECTION OF THE SPECIFICATION AND RELATED CLAIM REJECTIONS**

### **Specification and Claim Rejections Relating to Objection of the Specification**

The specification and claims were amended to indicate that the inlet and outlet are devoid of restrictions. The drawings, specification, and the Applicant's Declaration by the Inventor support these amendments. However, throughout the Answer, the Applicant's Declaration is disregarded as "merely a statement of opinion." In essence, the Examiner is ignoring the Declaration, much like he discounts all the Applicant's other support for patentability. The Examiner ignores the figures showing the inlet and outlet being defined of restrictions; the fact that the wire tubes of the present invention purposely present limited flow restriction; the fact that the area holding the wire tubes presents an enlarged flow area to reduce restrictions; and the fact that paragraph [0025] of the present application discusses the high flow rate of rate (up to 3,500 gallons/minute) of apparatus 10 as support for the amendments regarding the lack of flow restrictions. Inherently, the object of a high flow rate system is to avoid flow restrictions, which is entirely consistent with the inlets and outlets being devoid of flow restrictions.

Yet, while disregarding the figures of the present application; the Applicant's Declaration; and statements in the specification suggesting a lack of flow restrictions, the Answer finds no difficulty in determining that a prior art reference teaches such a feature based on a drawing alone (Figure 4 of Williamson). The Applicant respectfully suggests that the Examiner refuses to acknowledge figures, a declaration, statements, and facts when they do not support his position, but readily uses a single figure alone, when it supports his position. Such a double standard cannot be permissible.

## **REJECTION OF CLAIMS 21, 24, 49, 50, 60, 61**

### **AS ANTICIPATED BY WILLIAMSON**

#### **Claim 21**

The Answer provides a marked up figure from Williamson allegedly showing a direct flow path space. However, the alleged direct flow path space does not define a direct flow path. Thus, it is not a direct flow path space. As seen in the marked-up drawing, no fluid flows

directly along the alleged path of the illustrated space. For example, the illustrated space is blocked at the lower end by liquid *barrier* 38a, the middle portion is blocked by *separating* element 30, and upper portions are at least partially blocked. Thus, in addition to the reasons stated in the Appeal Brief, Williamson fails to teach the direct flow path space requirement of claim 21.

#### **Claim 24**

Claim 24 requires more than a bottom section including an aperture as apparently believed by the Examiner. The Answer continues to ignore clearly labelled drain 34 in the figure of Williamson and rather focuses on an unlabeled component. As shown in Figs. 3a, 4 5, and 6, drain 34 of Williamson is always downstream of tubes 20 and labelled. Presumably, drain 34 is positioned downstream to facility draining matter than naturally collects downstream of the tubes 20. Rather than be downstream, the unlabeled component is clearly upstream of the tubes 20, unlike drain 34, and doesn't satisfy the other requirements of claim 24 (that the aperture permits removal of debris, etc.), which are conveniently ignored by the Examiner. As such, the element of Williamson does not teach the requirements of claim 24.

#### **Claim 60 and 61**

As stated in the Appeal Brief, tubes 20 of Williamson are neither above nor below the alleged direct flow path space of Williamson. They are clearly contained within the vertical extent of the alleged direct flow path space of Williamson, not above or below it.

### **REJECTION OF CLAIMS 1, 27-29, 31-35, 43-45, 51, 52, AND 62 AS UNPATENTABLE OVER MACDUFF IN VIEW OF ELMI AND MULLER**

#### **Claims 1 and 31**

The Official Action rejected claims 1, 27-29, 31-38, 41, 42, 48-59, and 62 under 35 U.S.C. §103 as being unpatentable over MacDuff in view of Elmi and Muller. The Examiner again failed to establish the level of ordinary skill in the art and did nothing to refute that the level of skill was "low" as he previously suggested. While reviewing the merits of the proposed

combinations used to reject claims 1 and 31 and the other claims, this level of skill in the art should be taken into consideration.

Again, the Examiner ignores the Applicant's Declaration as "merely a statement of opinion" even though it contains data. The Examiner disregards the teachings of the MacDuff and Elmi because they "are based on an intended use of the systems" as if the intended use of the systems is of no consequence. Apparently, the Examiner is willing to view teachings in a vacuum when convenient. Of course, this is improper.

Further, the Examiner readily dismisses as "merely speculation" the Applicant's suggestion that adding multiple tubes to MacDuff would provide no additional surface area (and therefore benefit) than the wrapped layers already provided by MacDuff. First, the Examiner appears to have no difficulty "speculating" as to alleged benefits of proposed combinations without any explanation. Second, wrapping allows for more surface area than multiple tubes because there is inherently un-useable space between the multiple tubes and between the multiple tubes and the shell, which is much larger than the individual tubes. Whereas, a single, wrapped tube has no un-useable space between other tubes (because there are no other tubes) and has a circular shape that conforms better to the circular shape of the shell to minimize un-useable space between the wire mesh and the shell. Thus, the Applicant position that the proposed modification provides none of the alleged additional benefit is not "speculation," but fact.

The Examiner also dismisses as "speculation" the Applicant suggestion that providing multiple wire tubes, as proposed by the Examiner, will be more expensive than providing the single element (17) of MacDuff. Common sense dictates that providing multiple tubes having a combined surface area equal to single, wrapped element (17) will be more expensive. For example, providing multiple tubes will require additional cutting of the wire during fabrication because each tube will require two ends each (i.e. two tubes will have four ends combined), whereas single element (17) has only two ends. This additional cutting will require additional man-hours, which will increase labor costs. Furthermore, additional cutting will cause additional tool wear, which will increase tooling costs. Furthermore, rather than handling and placing a single element, multiple tubes must be handled during fabrication and assembly resulting in further additional labor costs. Common sense dictates that more elements will normally cost more than a single element.

Muller appears to be silent on what type of support "support" tube 5 provides. Clearly, gravity acts on perforated tubes 1 and base 6, which appears to be supported by support tube 5 either directly or indirectly. Thus, support tube 5 most likely provides some type of vertical/longitudinal support, which the Examiner disagrees with. Furthermore, as shown in Fig. 1 of Muller, perforated tubes 1 are only perforated on their external extent and contact each other. Thus, radial forces from a vacuum will cause perforated tubes 1 to pull inward and press against each other, rather than on tube 5. Likewise, these inward forces caused by a vacuum (and outward forces caused by pressure) will offset each other resulting in support tube 5 carrying no radial forces to lid 7. Thus, support tube 5 appears to only provide vertical support to perforated tubes 1 relative to lid 7 and no radial support relative to lid 7. Clearly, support tube 5 provides no support against fluid cross flow, because no such cross flow exists in Muller. This support against cross flow is the intended purpose of the claimed elongated core element. Remarkably (i.e. through hindsight), the Examiner manages to turn to Muller to satisfy this intended purpose with a device (i.e. tube 5 of Muller) that doesn't teach such a purpose.

Yet another negative consequence of the proposed combination is that the functionality of MacDuff would be significantly reduced or destroyed. As stated in the Appeal Brief, if the "elongated core" of Muller is provided on the device of MacDuff, it will interfere with float 22. To refute this, the Examiner states "Nowhere does Muller suggest the tube having to be elongated and such an assertion is based solely on appellant's erroneous assertion that the tube (5) of Muller provides only vertical support." First, the Examiner is apparently willing to ignore the fact that tube (5) of Muller is elongated as shown in Fig. 2. Second, the Examiner is willing to take Muller's silence on "having to be elongate" as some type of teaching that it could be something other than "elongate." Because a reference is silent on a feature, does not open the flood gates on what the reference actually teaches about the feature (ex. Muller doesn't indicate tube 5 "having to be" made a particular material, but this doesn't open the door to Muller teaching that tube 5 is made of every known material). Finally, the claim itself requires the core to be "elongate." Thus, the Examiner's suggestion that tube (5) need not be elongate to avoid the problem of destroying the float function of MacDuff results in the proposed combination not teaching all the required limitations of the claims. In essence, the Examiner has painted himself in a corner. On one hand, the Examiner needs the elongated quality of tube (5) of Muller in order for the proposed combination to teach all the limitations of the claim and on the other hand,

the Examiner needs tube (5) to be something other than elongated to avoid interfering with the float 22 of MacDuff. The Examiner cannot have it both ways. This further demonstrates the extreme lengths at which the Examiner will go in rejecting claims. Not only is the Examiner willing to use hindsight to formulate rejections, but the Examiner is willing to modify combinations to the point that they no longer satisfy the requirements of the claims in order to refute arguments against the combination. Rather than accepting the Applicant's argument and allowing the claim, the Examiner would rather twist the rejection to the extent that the combination no longer includes all the limitations of the claim, which also results in allowance.

Once again, the Examiner continues to ignore the Declaration of Aaron Schipper. Consistent with the Official Action's ignoring the multitude of reasons why the proposed combination does not make common sense, the Official Action ignores the data provided in the Declaration of Aaron Schipper 7 (see Evidence Appendix, paragraph 7).

#### **Claims 28 and 29**

The Official Action suggests that Elmi teaches the limitations of claims 28 and 29. However, as stated in the Appeal Brief, the Official Action provides no reason for modifying MacDuff to include these features. Thus, the Official Action has failed to satisfy the *prima facie* requirements to support an obviousness rejection.

#### **Claim 62**

Claim 62 requires, among other requirements, that at least one of a plurality of elongate coalescing medium assemblies is centered between other assemblies. The proposed combination fails to teach or suggest any of this combination. Thus, the Official Action has failed to satisfy the *prima facie* requirements to support an obviousness rejection. The Answer does nothing to address this.

#### **Claim 32**

Claim 32 requires an end cap having a recess that receives an elongated core element. The Official Action suggests that "the upper part of 40" of MacDuff is an end cap including a recess receiving an elongated core. Again, upper part of 40 of MacDuff is not an end cap. For one, it doesn't cap anything. Upper part of 40 is clearly open and only capped by correctly

identified "cap 16" of MacDuff, which does not include a recess that receives an elongated core. Furthermore, a negative consequence of the proposed combination is that the functionality of MacDuff would be significantly reduced or destroyed. If the "elongated core" of Muller is provided in "the upper part of 40" of MacDuff, it will once again interfere with float 22. The Answer does not address this negative consequence.

#### **Claim 34**

The Answer suggests that providing tubes in a circular pattern is "merely a change in configuration." The Applicant suggests that all patentable inventions are "merely changes in configuration" in some aspect. Thus, this reason for rejecting the claims cannot stand. Furthermore, changing from the square configuration of Elmi to the claimed circular pattern will change the flow pattern across the tubes, resulting in less flow over some tubes as discussed in the Appeal Brief, and not addressed in the Answer.

Earlier in the Answer, the Examiner pooh-pooed the teachings of MacDuff's as it relates to "what to do with a plurality of tubes" when compared to Elmi (see comments relating to claim 28, page 24 of the Answer). Remarkably, the teachings of MacDuff are now relevant to what to do with a plurality of tubes in rejecting claim 34 over the teachings of Elmi. Sometimes MacDuff is not relevant over Elmi to the Examiner relative to multiple tubes, other times it is. Inconsistency is readily explained by hindsight.

The Examiner also indicates that arranging tubes in a circular pattern aids in inserting the tubes into the housing of MacDuff. The Applicant respectfully suggests that if the Applicant made such a statement, it would be "speculation." Further, it is unclear to the Applicant how the process by which the combination is assembled is even relevant. As such, this rationale is without merit.

### **REJECTION OF CLAIMS 36-40, 41, 42, 53-57, AND 59 AS UNPATENTABLE OVER MACDUFF IN VIEW OF ELMI AND SCHWARTZ**

#### **Claim 36**

In arguing against the Applicant's comments regarding the diffuser (40) of Schwartz not being equivalent to a wire mesh retaining wall, the Examiner appears to once again suggest that

an alleged lack of detail equates to teaching everything under the sun. The Examiner states that "a cylindrical sleeve, having a multiplicity of holes"... "would read on a wire mesh retaining wall as claimed." This is backwards. The actual relevant inquiry is whether the claimed invention reads on the disclosure of Schwartz, which it does not. Because a prior art reference has a definition that "reads on" a claim, doesn't mean the more specific portions of the claim reads on the reference. Furthermore, it has no bearing on whether the structure of the prior art reference is structurally equivalent to the claimed feature.

The Examiner also states that the Declaration and Applicant's arguments are both based on the structure of the diffuser (40) shown in Figs. 1 and 2 without taking into account the full disclosure of Schwartz. The structure shown in Figs. 1 and 2 are consistent with the rest of the disclosure of Schwartz, which provides no more detail than Figs. 1 and 2. Apparently the Examiner is taking the position that the lack of detail provided in the specification of Schwartz is some indication of additional breadth of detail (i.e. because it doesn't provide detail, it teaches that it could be anything). Of course, such a position is improper. As stated above, lack of detail or silence, does not equate to breadth of detail. It certainly doesn't equate to a teaching of structural equivalency. The Applicant's discussion of the differences between diffuser (40) and wire mesh retaining walls is not addressed by the Examiner.

#### **Claim 41**

The Official Action suggests that the tube at the center of the bundle of tubes of Elmi is the claimed "elongated core element." Once again, the Examiner ignores the other limitations of the claim. As a result, the Official Action has failed provide a *prima facie* basis for rejecting this claim. Removal of the rejection of claim 41 is respectfully requested.

### **REJECTION OF CLAIMS 21-26, 49, AND 50 AS UNPATENTABLE OVER MACDUFF IN VIEW OF ELMI AND KUSTER OR MANNION**

#### **Claim 21**

Again, no where does claim 21 recite a dimension (inches, centimetres, etc.). Rather, claim 21 recites relative positions of various portions of the wire mesh tubes. Further, the placement of these portions will affect the performance of MacDuff because it will change the amount of element 17 directly in the flow path and the amount this is not. Inherently, the amount



of element 17 in and out of the flow path will impact the ability of air to collect on those portions. In this regard, the Examiner ignores the language he himself quotes from *Gardner v. TEC Systems*.

Further, the rejection of claim 21 relies on a combination of either Kuster or Mannion, but fails to provide any reason whatsoever to modify MacDuff to have any feature of Kuster or Mannion. This failure is yet another example of the use of hindsight, rather than prior art teaching or other rationale, to formulate a reason to reject the claims.

Furthermore, the proposed combination continues to be inconsistent with itself. As with the Official Action, the Answer suggests providing more areas in the flow path when the claim itself requires a minority portion of the tubes in the direct flow path space. Which is it? A majority (i.e. more in the flow path) or the minority (i.e. less in the flow path)? Again, the Examiner cannot have it both ways. Arguing that it can be both ways again demonstrates the use of hindsight.

## **REJECTION OF CLAIM 5 AS UNPATENTABLE OVER MACDUFF IN VIEW OF ELMI AND MULLER AND BLACE**

### **Claim 5**

In the Answer, the Examiner is now alleging that "end cap (16) of Blace has element (94) which fits around the tube, the tube fitting within a recess formed by the element (94) as shown in figures 9 and 10 of Blace." This statement by the Examiner is replete with errors. First, the statement alleges that cross-wire 94 is shown in Fig. 9. The Applicant can find no reference to cross-wire 94 in Fig. 9. Second, there is no indication that cross-wire 94 of Blace forms any part of top plate 16 of Blace. Rather, as shown in Fig. 10 of Blace, cross-wire 94 is positioned somewhere below the cross-sectional line (10-10) of Fig. 9, which is well below top plate 16. Next, the Examiner indicates that a tube fits within a recess formed by cross-wire 94. Figures 9 and 10 illustrate a single tube 10. Clearly, the openings defined by cross-wire 94 in Fig. 10 are much smaller than tube 10. Because the "recesses" provided by cross-wire 94 are much smaller, tube 10 cannot (and does not) fit within the alleged recess. Thus, the Official Action has failed to provide support for this rejection and failed to establish a case of *prima facie* obviousness.

The Examiner also states that the teaching of Blace would be applied by one of ordinary skill in the art because "it pertains to a similar issue of how to secure a plurality of tubes situated within a housing." First, this statement fails to provide any rationale for making the proposed combination. Second, the teachings of the embodiment of Figs. 9 and 10 relates to an "external bag support means" (see column 1, lines 62-68) rather than securing a plurality of tubes in a housing.

## **REJECTION OF CLAIM 30 AS UNPATENTABLE OVER MACDUFF IN VIEW OF ELMI AND MULLER AND BASSE**

### **Claim 30**

Basse relates to "packing elements" that have guide elements in gas streams suitable for "growing surfaces for biofilm" (column 1, lines 29-31). Contrary to the Examiner's assertions, this technology is far a field from the other applied prior art. One of "low" skill in the art would not look to packing elements that may "randomly dumped" (column 1, line 19) for waste gas treatment (column 1, line 21) and growing biofilm. Furthermore, the Examiner continues to ignore the fact that placement of the guiding surfaces that create flow paths would "unavoidably restrict hydraulic properties." Further, the Examiner's rationale for providing the features of Basse is to provide "good ventilation." There is no common sense reason for ventilation in the fluid of MacDuff, Elmi, and Muller, particularly when the goal is to remove air, not ventilate.

### **Oral Hearing**

The Applicant does not request an oral hearing. The Applicant requests that this matter proceed to the Board without further briefing.

### **Conclusion**

For the foregoing reasons, Appellants respectfully submit that the pending claims are patentable, and request reversal of the rejections of the claims in the present application.

In the event Appellants have inadvertently overlooked the need for an extension of time, an additional extension of time, payment of fee, or additional payment of fee, Appellants hereby

conditionally petition therefor and authorize that any charges be made to Deposit Account No. 02-0390, BAKER & DANIELS LLP.

Respectfully submitted,

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